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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,295	11/03/2003	Nigel Benjamin	13227-002003	5269

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EXAMINER	
PAK, JOHN D	

ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/701,295	BENJAMIN ET AL.	
	Examiner	Art Unit	
	JOHN PAK	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This Office action is in reply to applicant's amendments and remarks, filed on 6/27/2005.

Effective Filing Date(s) of Claims 1, 19 and 20

Claim 1: Applicant's amendments to claim 1 now require "pH at the environment of use being below pH4 and being effective to release NO or NO_2 ions to potentiate the patient's immune system against the bacterial, viral or fungal conditions."

It is noted that such subject matter was not explicitly disclosed in 08/696,930, PCT/GB95/00338, and GB foreign priority applications 9403284.4 and 9404365.0. PCT/GB99/00605 discloses the acidified nitrite composition to increase inmuno-competent cells and potentiate the immune system, but this application is directed to treating viral skin infections. A copy of foreign priority document GB 9804469.6 does not appear to be in the record of this or any other related application, so it cannot be given further consideration. The upshot is that the amended subject matter does not **explicitly** provide descriptive support from any of the above mentioned related applications.

However, claims 1-2 of GB 9403284.4 (filed 2/21/1994) are virtually identical in claim scope to the instant claim 1, except for the phrase, "being effective to release NO or NO_2 ions to potentiate the patient's immune system against the bacterial, viral or fungal conditions." Therefore, since the same pH of the environment, "below 4," is used with the same nitrite/nitrate + organic acid for the same bacterial, viral or fungal

conditions, the same result would necessarily have been obtained in the claim of GB 9403284.4. MPEP 2163.07. The conclusion with respect to the effective filing date of applicant's current claim 1 is that it is entitled to the date of **2/21/1994**.

Claim 19: Same as above, effective filing date is **2/21/1994**.

Claim 20: The subject matter, "pH at the environment of use is below pH4 **and is sufficiently high to potentiate** the patient's immune system **selectively** against the bacterial, viral or fungal conditions, as compared to normal patient cells" (emphases added) is not disclosed or conveyed in any prior filed applications for which benefit is claimed. It is the Examiner's position that the instant subject matter was not even adequately disclosed in this application or its direct parent application (09/330,654, filed on 6/11/1999) – i.e. it is new matter. The manipulation of the pH so that it is concomitantly below 4 but high enough for selective immune system potentiation was not adequately conveyed even in those applications. Therefore, at best, the effective filing date of claim 20 is **no earlier than 6/11/1999,** and the Examiner believes that such best case scenario does not apply due to the new matter issue.

Having thus established the effective filing dates for the purpose of further examination, an examination on the merits is set forth below.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As discussed previously, the subject matter, "pH at the environment of use is below pH4 **and is sufficiently high to potentiate** the patient's immune system **selectively** against the bacterial, viral or fungal conditions, as compared to normal patient cells" is not disclosed or conveyed in any prior filed applications for which benefit is claimed. It is the Examiner's position that the instant subject matter was not even adequately disclosed in this application or its direct parent application (09/330,654, filed on 6/11/1999) – i.e. it is new matter. Applicant's reliance on the specification disclosure at page 4, lines 8-16 and page 7, lines 34-36 is noted, but the manipulation of the pH such that it is concomitantly below 4 but high enough for selective immune system potentiation was not adequately conveyed.

While the instant specification discloses certain immuno-potentiation, there is no mention of a link between the pH that is below 4 but somehow high enough to provide

selective immuno-potentiation. This is the missing subject matter from the originally filed dislcosure. Therefore, claim 20 must be rejected as lacking in adequate descriptive support.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, as amended, is confusing. The acidifying agent is first disclosed, and it is to reduce the pH at an environment. But at lines 8-9, "said pH at the environment of use being below pH4" does not make it clear that said pH was obtained from the acidic action of the acidifying agent. Presently, the claim appears to read on the environment already having a pH below 4 or the environment made to have its pH below 4 by some other agent (e.g., inorganic agent).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Biosis abstract 1987:466265.

Instant claims 1 and 19 are claimed as "A dosage form." The organic acidifying agent and the nitrite ion source or nitrate precursor therefor are "disposed in respective pharmaceutically acceptable carriers for admisture at the intended environment of use."

Biosis abstract 1987:466265 discloses topical staining with silver nitrate followed by application of 5% or 10% salicylic acid in petrolatum.

While the cited reference does not state in verbatim language a dosage form," the same form is necessarily disclosed. Separate containment of silver nitrate and salicylic acid is explicitly disclosed. Applicant's dosage form does not require any specificity as to how the acid and the nitrate components are physically connected relative to each other within the dosage form. Therefore, it is seen to be sufficient that the cited reference clearly discloses those ingredients to be separately held prior to their final admixture.

Applicant's "below pH4" language is noted, but 5% or 10% salicylic acid would necessarily provide such pH.[1]

[1] Salicylic acid is soluble in water at 1 g/460 ml. So 2.17 g is soluble in 1 liter. The Merck Index shows pH of saturated salicylic acid is 2.4. since 2.17 g/l is the point of saturation, this means about 0.2% salicylic acid in water has a pH of 2.4. Therefore, the prior art 5% or 10% salicylic acid would clearly provide a pH that is "below pH4" at an intended environment of use.

Release of NO or NO_2 ions to potentiate the patient's immune system against microbiological conditions is not explicitly disclosed. However, the cited reference clearly shows a strongly acidic 5% or 10% salicylic acid formulatin being topically applied over silver nitrate. Since the same nitrate and same acid are mixed at the same substrate, the same ultimate physiological effect must necessarily be obtained. Moreover, it must be kept in mind that the invention here is in the dosage form per se, which is interpreted broadly as explained above. It is sufficient therefore that the cited Biosis abstract 1987:466265 shows in one treatment protocol separate containment of a nitrate and an organic acid.

As for the pharmaceutical carriers, the petrolatum for salicylic acid is sufficient. With respect to silver nitrate, it is noted that silver nitrate is disclosed as a stain to be applied first. Since silver nitrate is a solid, the stain would have been immediately envisaged as a solution form. With the solution being topically applied, it meets the pharmaceutically acceptable carrier feature.

For these reasons, Biosis abstract 1987:466265 anticipates applicant's claims 1 and 19.

Claims 1 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Mardi et al. (US 4,595,591).

Mardi et al. explicitly disclose a composition in the form of "two vials, the first containing a sodium nitrite solution, the second a solution of other components" (column 9, lines 58-61). The "other components" in the second vial contains nitric acid in a concentration and amount that gives the combined solutions a pH of below about 1 and **organic acids** (column 2, lines 26-37; column 5, lines 10-62). Mardi's composition is used to treat conditions such as verruca vulgaris and condyloma acuminatum (column 12, line 60; claim 1).

The claims are thereby anticipated. The intended use claim feature is met because verruca vulgaris and condyloma acuminatum are conditions that are caused by the human papillomavirus. Mardi's treatment is therefore an antiviral treatment. Although Mardi et al. do not explicitly state the release of "NO or NO_2 ions," such an effect would be a necessary consequence of combining Mardi's two vials, because the acids in the second vial would react with the nitrite in the first vial to release the same agents as applicant's agents. Since applicant's claim asserts release of NO or NO_2 ions from mixing an acid (sufficient to reduce pH below 4 at the environment) with a nitrite, Mardi's highly acidic (pH of below 1) combined solution of acid + nitrite would necessarily release the same agents.

Applicant's arguments of 6/27/2005 have been given due consideration, but they were deemed unpersuasive. Applicant argues that Madri et al. disclose an indiscriminate "fixing" or mummification" of the cells, whereas applicant's invention is an

immune-based attack relying on apoptosis or other immune system process. However, it appears that applicant is seeking to distinguish something that is not well defined in his own claim language. The claims do not appear to exclude fixing or mummification per se. Applicant's claims do not exclude such effects and do not specify the type of potentiation, degree of potentiation, timing of potentiation, and locus of potentiation. In the absence of such further specific claim features, the Examiner maintains that Madri's two vial dosage form would necessarily possess the amendatory immune system potentiation feature, because (i) the same acidified nitrate at the same or indistinguishable pH is disclosed by Madri et al., (ii) the added organic acids such as lactic + oxalic + acetic mixture are explicitly taught by Madri et al. (column 5, lines 57-60), and (iii) nothing about Madri's disclosure excludes the necessary potentiation result claimed by applicant, since Madri et al. explicitly teach healing without secondary infection (column 11, lines 64-66).

Thus, under these facts, applicant cannot persuasively argue that Madri's dosage form would not have necessarily produced the amendatory potentiation feature, because Madri's localized effects do not exclude an unspecified immune system potentiation, wherein Madri's dosage form contains the same exact ingredients or ingredients that cannot be distinguished by applicant's claim language.

Applicant also argues that Madri et al. always use nitric acid, but it must be realized that applicant's claims do not effectively exclude nitric acid. The "consists

essentially of" language in claim 19 is noted, but such language only excludes a substance that would materially affect the basic and novel characteristics of the claimed invention. From the above discussions, it has been the Examiner's interpretation that Madri et al. disclose a two vial dosage form, which would provide the same effect as applicant's invention. Therefore, the nitric acid in Madri et al. would not materially affect the basic and novel characteristics of applicant's invention, which is a dosage form of an acid and a nitrite, to deliver a pH below 4. Applicant does not further define "below pH4" and applicant does not further define immune system potentiation, as discussed above. Consequently, applicant's broad and non-specific claim language cannot operate to exclude Madri's nitric acid.

For these reasons, the claims are deemed to be anticipated.

Applicant is advised of claims 12-19 of U.S. Patent No. 6,103,275. This patent is not prior art relative to the instant application. At the present time, no further action by the Examiner is deemed to be appropriate.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is **(571)272-0620.** The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Gary Kunz, can be reached on **(571)272-0887**.

The fax phone number for the organization where this application or proceeding is assigned is **(571)273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOHN PAK
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